

# LATEST DEVELOPMENT IN THE MANAGEMENT OF ACID-RELATED DISEASES

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## 1. Dyspepsia management

For primary care of un-investigated recent onset dyspepsia, there are three main approaches:

1. Refer for upper endoscopy
2. Test for *H. pylori* with non-invasive tests and treat if positive
3. Empirical treatment with prokinetics or proton-pump inhibitors or H<sub>2</sub>-antagonists.

Many studies have been performed to look at the results among these groups.

## 2. Gastric cancer

Incidence and mortality of gastric cancer in most parts of Asia remain high.

1. There is definite link between *H. pylori* infection and gastric cancer. Therefore *H. pylori* carriers are at risk for gastric cancer.
2. If a subject has premalignant lesions (gastric atrophy, intestinal metaplasia), the eradication of *H. pylori* reverses the lesions in about 20-30% of subjects only.
3. For subjects without premalignant lesions, there is no data yet to answer whether eradication of *H. pylori* will reduce the risk of gastric cancer in future.

## 3. Helicobacter pylori infection

### Prevalence

About half of the population in Hong Kong is infected with *Helicobacter pylori*. Although *H. pylori* is associated with a few GI and extra-GI diseases, majority of the carriers will not have any disease manifestation throughout their life.

### Diagnosis

It is important to use appropriate tests for diagnosis of *H. pylori* infection.

#### Invasive tests include:

1. Rapid urease test: including CLO test, home made rapid urease test, PyloriTek test, and others. The first two tests should be read at 24 hours, and the third test can give a quicker diagnosis within one hour.
2. Histology: Antral biopsy sample is needed.
3. Culture: Antral biopsy sample and special transport medium are needed. This is the only test that allows assessment of antibiotics sensitivity of the organism.
4. PCR (polymerase chain reaction): Antral biopsy sample is needed.

#### Non-invasive tests include:

1. Carbon-13 urea breath test (<sup>13</sup>C-UBT): Good for both pre- and post-treatment diagnosis. Non-radioactive, good for children and pregnant women. Should be more widely used.
2. Stool antigen test: Easy to perform. Measures antigen, not antibody. Need laboratory support.
3. Blood test — serology test. Based on antibody, mostly ELISA based. Need laboratory support. Need validation of accuracy in Hong Kong. Cannot be used in post-treatment patient.
4. Blood test — whole blood. Based on antibody. Can be performed in front of patient using one drop of blood. Need validation of accuracy in Hong Kong. Cannot be used in post-treatment patient.
5. Urine test. Based on antibody. Near patient test. Need validation of accuracy in Hong Kong. Cannot be used in post-treatment patient.

**Choice of tests:**

1. Does the patient require an upper endoscopy?
2. First time test or post-treatment? If post-treatment, wait for 4 weeks after stopping all drugs. Breath test, histology and culture are best choices.
3. Blood test or any antibody test must NOT be used for post-treatment.
4. Test results affected by recent (usually 2-4 weeks) intake of proton-pump inhibitor, antibiotics, bismuth compounds.

**Treatment**

It is important to confirm diagnosis before treatment.

It is also important to use the appropriate treatment regime.

Treatment regime recommended by Asian Pacific Consensus on Management of *H.pylori*.

1. Proton pump inhibitor (standard dose) + clarithromycin 500 mg + amoxicillin 1 gm
  2. Proton pump inhibitor (standard dose) + clarithromycin 500 mg + metronidazole 400 mg
  3. Ranitidine bismuth citrate (RBC) 400 mg + clarithromycin 500 mg + amoxicillin 1 gm
  4. Ranitidine bismuth citrate (RBC) 400 mg + clarithromycin 500 mg + metronidazole 400 mg
- ALL TWICE DAILY FOR 7 Days

If clarithromycin not available, switch to amoxicillin and metronidazole. The eradication rate is around 10% lower than with clarithromycin.

Eradication rate affected by antibiotic resistance. In Hong Kong, metronidazole resistance found in 49.4% and clarithromycin resistance found in 10.8%. Dual resistance found in 7%.

**Other important points:**

1. Non-ulcer dyspepsia — the symptom may not respond to *H.pylori* eradication.
2. Symptoms recur after *Hp* eradication — look for ulcer relapse, reinfection of *Hp*, Gastroesophageal reflux disease (GERD), functional dyspepsia, or irritable bowel syndrome.
3. Not all patients with pain or dyspepsia is due to *Hp* infection.
4. Not all *Hp* carriers will benefit from *Hp* eradication.

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